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Our ref: 11215131-Poulos-13

June 17, 2022

Ms. Lauren Poulos
Remedial Project Manager
United States Environmental Protection Agency (EPA), Superfund Division (6SF-RA)
1201 Elm Street, Suite 500
Dallas, Texas 75270 2102

Southern Impoundment Supporting Deliverables
San Jacinto River Waste Pits Site
Harris County, Texas
EPA Region 6, CERCLA Docket No. 06-05-21 for Remedial Action

Dear Ms. Poulos:

GHD Services Inc. (GHD), on behalf of International Paper Company (Respondent), submits to the United States Environmental Protection Agency (EPA) three supporting deliverables in follow up to the 100% Remedial Design (RD) Addendum[1] submission for the San Jacinto River Waste Pits Site in Harris County, Texas (Site). This 100% RD Addendum was prepared pursuant to the requirements of the Unilateral Administrative Order (UAO) for Remedial Action (RA) of the Southern Impoundment, EPA Region 6, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Docket No. 06-05-21 (Order[2]).

In accordance with the EPA approved revised Remedial Action Work Plan (RAWP[3]), the following supporting deliverables are enclosed:

– Transportation and Off-Site Disposal Plan (TODP).
– Field Sampling Plan (FSP).
– Site-Wide Monitoring Plan (SWMP).

The RAWP required that additional specific supporting deliverables be updated based on the Pre-Construction Field Sampling Event results within 60 days after receipt of all validated data. After the Remedial Contractor (RC) has been selected, the RC will be required to adhere to the EPA approved plan(s) or modify the plan(s), as needed.

[1] GHD, 2022. *100% Remedial Design Addendum*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. June 2, 2022.
[2] EPA, 2021. *Unilateral Administrative Order for Remedial Action.* U.S. EPA Region 6, CERCLA Docket. No. 06 05 21. In the matter of: San Jacinto Waste Pits Superfund Site Southern Impoundment, Harris County, Texas. International Paper Company, Respondent. August 2021.
[3] GHD, 2021. *Remedial Action Work Plan-Southern Impoundment Revision 2*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. November 26, 2021.

Should you have any questions or require additional information regarding this submittal, please contact GHD at (713) 734-3090.

Regards

Charles W. Munce, P.E.
Project Coordinator

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CM/mss/13

Encl: Attachment 1 - TODP
Attachment 2 - FSP
Attachment 3 - SWMP

Copy to: Robert Appelt, EPA
Katie Delbecq, Texas Commission on Environmental Quality (TCEQ)
Phil Slowiak, IPC
Brent Sasser, IPC

Attachments

Attachment 1

TODP

Attachment 1 - Transportation and Off-Site Disposal Plan Southern Impoundment

Provided Following Submission of the Final 100% Remedial Design Addendum San Jacinto River Waste Pits Site Harris County, Texas

International Paper Company

June 17, 2022

DRAFT-PRIVILEGED AND CONFIDENTIAL
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→ **The Power of Commitment**

Contents

Figure index

1. Introduction

This Transportation and Off-Site Disposal Plan (TODP) was prepared by GHD Services Inc. (GHD), on behalf of International Paper Company (IPC) for the Southern Impoundment of the San Jacinto River Waste Pits Superfund Site in Harris County, Texas (Site). This TODP is an updated version of the TODP included as one of the supporting deliverables with respect to Final 100% Remedial Design (RD) (Amended April 2021) (GHD, 2021a) and is being submitted on behalf of IPC to meet requirements contained in the August 5, 2021, Unilateral Administrative Order (UAO; EPA, 2021).

The Revised Remedial Action Work Plan (RAWP) submitted to the EPA on November 26, 2021 (GHD, 2021b) requires that additional specific supporting deliverables, including the TODP, be updated based on the results of the Pre-Construction Field Sampling Event (PC-FSE) within 60 days after receipt of all validated data from the PC-FSE.

This TODP provides the procedures for on-site management and loading of excavated material to be disposed of off-site during the Southern Impoundment Remedial Action (RA), the transportation routes for off-site shipments from the Southern Impoundment, and measures to be implemented, if needed, to protect communities that may be affected by the shipments. It also addresses the management of other wastes generated during implementation of the Southern Impoundment RA (collectively, Wastes). Prior to initiation of Southern Impoundment RA activities, each remedial contractor (RC) selected with responsibilities addressed in this TODP will either update this TODP or develop its own TODP to address the components outlined in this document. References below in this TODP to “the RC” are intended to refer to the selected RC with responsibility for that aspect of the Southern Impoundment RA. References in this FSP to the "work site" are to the Southern Impoundment. Prior to initiation of Southern Impoundment RA activities, the RC will either update this TODP or develop its own TODP to address the components outlined in this document.[1]

1.1 Relationship to Supporting Plans

The TODP should be considered in combination with the other supporting plans that are part of this submittal and plans identified in the approved Final 100% RD Remedial Design (Amended April 2021) that have been updated or approved for use as part of the Southern Impoundment RA. The Construction Quality Assurance/Quality Control Plan (CQA/QCP) describes the procedures to verify that the excavation objectives are achieved during implementation. The Site-Wide Monitoring Plan (SWMP) describes the procedures for monitoring to prevent the potential spread of dust generated during construction and monitoring of the best management practices (BMPs) with respect to stormwater. The field and analytical quality procedures are described in the Quality Assurance Project Plan (QAPP). The Field Sampling Plan (FSP) provides the procedures for sampling the treated contact water and the imported backfill that will be used to fill excavations during implementation of the Southern Impoundment RA.

2. Roles and Responsibilities

Roles and responsibilities of those involved in activities addressed by this TODP should be defined in the plan to be developed by the RC, but are expected to include the following:

– ***Generator*** - IPC will be the generator of the Wastes. The Generator will be responsible for signing the waste profiles and the manifests. The Generator’s signatory authority may be delegated to another representative on-site.

[1] With regard to this requirement, please see the cover letter submitting the Revised RAWP dated November 26, 2021.

- ***Engineer*** - The Engineer will be responsible for inspecting and documenting the work for conformance with the specifications and other contract documents, including the loading and transportation of impacted materials for disposal off-site. This role may include a waste coordinator to track Waste-related activities and prepare the documentation of the kind described in Section 7.0.
- ***Remedial Contract*** - The RC will be responsible for managing and loading the impacted materials for transportation to the disposal facility and management and disposal of other Wastes generated during the Southern Impoundment RA.
- ***Transporter*** - A Transporter will have responsibility for transporting Waste to the selected Disposal Facility(ies). The Transporter will sign the waste manifests as the Transporter.
- ***Disposal Facility*** - A Disposal Facility will be responsible for approving waste profiles, receiving the waste shipments, documenting the weight/volume, and disposing of the Waste properly according to its permits. A Disposal Facility will sign the waste manifests as the Disposal Facility and return the completed manifest to the Generator.

3. Compliance with Off-Site Disposal Rule

Section 121(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) applies to any CERCLA response action involving the off-site transfer of any hazardous substance, pollutant, or contaminant (CERCLA wastes). That section requires that CERCLA wastes may only be placed in a facility operating in compliance with Resource Conservation and Recovery Act (RCRA) or other applicable Federal or State requirements. It further prohibits the transfer of CERCLA wastes to a land disposal facility that is releasing contaminants into the environment, and requires that any releases from other waste management units must be controlled. These principles are interpreted in the Off-Site Rule (OSR), set forth in the National Contingency Plan (NCP), at 40 Code of Federal Regulations CFR) 300.440.

The OSR establishes the criteria and procedures for determining whether facilities are acceptable for the receipt of CERCLA wastes from response actions authorized or funded under CERCLA. The OSR establishes compliance criteria and release criteria, and establishes a process for determining whether facilities are acceptable based on those criteria. The OSR also establishes procedures for notification of unacceptability, reconsideration of unacceptability determinations, and re-evaluation of unacceptability determinations.

The SOW requires a prior determination that a proposed Disposal Facility is acceptable before shipping any hazardous substances, pollutants, or contaminants to it. IPC will contact the EPA Region VI regional off-site contact to inquire about the status of each selected Disposal Facility. Confirmation that a Disposal Facility is able to receive CERCLA waste will be documented in correspondence sent to the EPA Remedial Project Manager prior to shipping material to the Disposal Facility.

4. Waste Classification Procedures

The Southern Impoundment 100% RD (Amended April 2021) describes the initial waste determination process for Impacted Material (as defined below). To supplement the existing waste characterization data, six additional discrete samples for waste characterization were collected during the PC-FSE within the four proposed excavation areas. These locations targeted intervals of known high dioxins and furans concentrations. These samples were analyzed for the four RCRA hazardous waste characteristics per EPA required test methodology in 40 Code of Federal Regulations (CFR) Part 261. As with all past waste Southern Impoundment characterization samples, the results indicate that the waste is non-hazardous.

Additionally, composite samples of the PC-FSE investigation-derived waste (IDW) were collected, in accordance with Texas non-hazardous industrial solid waste regulations (Texas Administrative Code [TAC] 335.505-506) to further refine the non-hazardous classification (Class 1 or Class 2) of that material. One composite sample was collected from the IDW from each of the four excavation areas and analyzed for the Class 2 disposal parameters including Toxicity Characteristic Leaching Procedure (TCLP), in accordance with Texas non-hazardous industrial solid waste regulations (TAC 335.505-506). The results indicate that the IDW is non-hazardous and below the Class 1 disposal parameter thresholds.

Based on the previous waste characterization sampling outlined in the Southern Impoundment 100% RD (Amended April 2021) and the PC-FSE, the RA impacted material will be managed as a Class 2 non-hazardous waste.

As detailed in the 100% RD Addendum, RA Construction will excavate approximately 92,000 cubic yards (cy) of soil, of which approximately 28,800 cy would be overburden that will be temporarily stockpiled and then used as backfill and an estimated 63,200 cy of impacted material will be transported off-site for disposal at a Subtitle D landfill.

To further validate the classification of the impacted material as Class 2 non-hazardous waste, a composite sample will be collected from the impacted material stockpiles at a frequency of approximately every 1,000 cy as detailed in Section 4.2.

The plan to be developed by the RC (which will be developed prior to any off-site disposal taking place) will identify in more detail waste classification procedures and the disposal options with respect to the different waste streams to be managed during the Southern Impoundment RA. The different waste categories and procedures that may be included are described below.

4.1 Waste Stream Categories and Disposal Options

It is anticipated that the following waste categories may be generated during the Southern Impoundment RA:

- ***Impacted Material*** - Impacted material that is excavated (other than Potentially-Impacted Remediation Debris, described below) and determined to not be suitable for reuse will be solidified, as necessary, and transported to an off-site Disposal Facility. Any other type of waste material that may be encountered during excavation activities will be segregated from the excavated material, characterized, and profiled separately.
- ***Potentially Impacted Remediation Debris*** - Excavated Materials could include debris, including miscellaneous wood, concrete, metal, and trash that, because of their contact with other materials, may have to be characterized for disposal. This also may include tarps, plastic, wood, discarded treatment filters, discarded personal protective equipment (PPE), and other spent construction materials that may have come into contact with impacted materials.
- ***Non-Impacted Remediation Debris*** - Non-impacted remediation debris could include any cleared vegetation, demolition debris, and/or other debris encountered at the surface. These materials may be managed as Class 3 non-hazardous waste under the regulations governing classification of non-hazardous industrial solid waste in Texas (30 Texas Administrative Code [TAC] §335.505, 335.506, and 335.508), or can be managed with the impacted materials as Class 2 non-hazardous waste.
- ***Water Treatment System Residuals***
  - ***Spent Media from Water Treatment System (WTS) -*** The spent carbon and other spent media from the WTS may be transferred to a vendor for recycling or regeneration. If the spent carbon or other spent media cannot be recycled/regenerated for other uses, the material would be characterized and transported off-site for disposal. The media will need to be characterized at the time that it is generated but is expected to be a Class 2 non-hazardous waste.
  - ***WTS Influent and Effluent Tank Liners -*** The liners from the Lake Tanks will need to be disposed of at the conclusion of each excavation season. The liner material will need to be characterized at the time that it is generated but is expected to be a Class 2 non-hazardous waste.

- ***Solids in Lake Tanks -*** Solids that collect in the Lake Tanks will need to be disposed of at the conclusion of each excavation season. The media will need to be characterized at the time that it is generated but is expected to be a Class 2 non-hazardous waste.
- ***Chemical Sludge -*** The contact water is expected to contain solids from the waste material in the excavation. It is anticipated that coagulants, organosulfide, and/or polymers will result in the precipitation of metals and removal of suspended solids. The resulting sludge will be withdrawn as the underflow of the inclined plate clarifier. The settled solids will be directed to sludge dewatering boxes where it is estimated that it will be gravity-thickened to a solids concentration of up to 6 to 8 percent (mass basis). Once dewatered, the sludge dewatering boxes will be trucked back to the dewatering areas for solidification and off-site disposal.

– ***General Trash and Sanitary Sewage*** - General trash and sanitary sewage will need to be handled through service companies that specialize and are licensed for these activities or through some other means adopted by the RC.

The applicable waste classifications will be updated during the Southern Impoundment RA.

4.2 Waste Sampling and Classification

The plan developed by the RC will define characterization procedures to be used to profile Waste. Impacted materials (other than those classified as Potentially Impacted Remediation Debris) were characterized during the PC-FSE utilizing the guidance provided in Chapter Nine "Sampling Plan" of the *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (EPA, 1986) and in *RCRA Waste Sampling Draft Technical Guidance* (EPA, 2002). Composite samples of the stockpiled impacted material will be collected and analyzed at a frequency that will be determined based on the Disposal Facility's requirements to confirm that the impacted material does not contain contaminants of potential concern above the Texas non-hazardous industrial solid waste regulations TAC 335.505 506 Class 1 disposal parameter thresholds. This will be done in order to manage impacted material as Class 2 non-hazardous waste. The RC will collect and composite impacted material from different locations and elevations within each stockpile. Once a sample is collected from a stockpile, no additional material will be added to the sampled stockpile.

The samples will be analyzed for the analytical parameters listed in Table 4.1 under an expedited turnaround time (TAT) with an EPA-accredited laboratory (Approved Laboratory), pursuant to EPA Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846) and TX1005. The applicable sampling and analytical methods are addressed in the FSP and in the QAPP.

Table 4.1 Analytical Testing Parameters for Impacted Material

Analytical Parameters	Analytical Methods
TCLP Texas 11 Metals	SW 846 6020A/7471A
Total Petroleum Hydrocarbons	TX 1005
TCLP Dioxins and Furans	SW-846 1613B

5. On-Site Management and Loading

The plan to be developed by the RC will identify procedures for on-site management of the Impacted Material and other wastes and their transportation off-site for disposal. The RC's plan is expected to address the elements below.

5.1 Transportation Truck/Container Requirements

Trucks, such as 20-ton end-dump trucks or roll-off containers that will be loaded onto trucks, are expected to be used to transport materials off-site for disposal. The RC's plan will include requirements for inspection of trucks and containers used for this purpose.

5.2 Truck Staging and Loading Requirements

5.2.1 Lining Trucks and Securing Loads

The trucks' beds and containers will be required to have a liner. Procedures will be required to address any free liquids observed after loading, such as the addition of solidification agents. Tarps or other coverings will be required to be placed over the loads and secured prior to trucks leaving the Southern Impoundment.

5.2.2 Control and Mitigation of Tracking Waste Beyond Work Areas

Procedures will be established to prevent any tracking of waste or mud beyond the limits of the work site. This may include an inspection/cleaning station at a location where all trucks are required to pass before leaving the loading area, at which trucks will be inspected and if necessary, cleaned. Cleaning techniques may include dry or wet decontamination methods.

6. Transportation

The plan to be developed by the RC will be required to address safety procedures to be followed to control access and egress to the work site by vehicles, including signage and the use of flaggers, if appropriate. A preliminary map showing the route from the Southern Impoundment to Interstate 10 (I-10) is also provided as Figure 1. It is anticipated that the RC will put in place a transportation plan with each Transporter that will confirm the truck routes to the selected Disposal Facility(ies) and describe the safety procedures that will be employed to protect the public. The plan developed by the RC will include measures for communicating with neighboring businesses regarding the timing and volume of truck traffic leaving the work site, and all required coordination with the Texas Department of Transportation (TxDOT) and, if applicable, Harris County regarding permitting, signage, and the timing and volume of truck traffic.

7. Document and Reporting

The plan to be developed by the RC will address documentation requirements related to the management of the wastes, and may include the elements identified below.

7.1 Waste Profiles

Waste profiles will be developed and maintained on-site by the RC for the different waste types listed in Section 4.0 and for the different Disposal Facilities designated to receive the waste. Profiles will also be developed for any additional waste streams that are identified during the Southern Impoundment RA. The waste profiles will describe the waste and provide the Disposal Facility with the information it needs to ensure the waste can be managed at its facility under that profile. Waste profiles should also include waste codes and other information consistent with RCRA (40 CFR Part 261 and 268) and TAC Chapter 335, Subchapter R. Copies of the profiles will be maintained on-site and any changes to a profile will require the approval by both the Generator and the Disposal Facility, after which the profile will be updated to reflect the approved changes.

7.2 Manifests

Based on the waste characterization samples collected to date, hazardous waste is not expected to be generated during the Southern Impoundment RA. However, if hazardous waste, as defined in 40 CFR Part 261, is identified, it will be managed and disposed of in accordance with RCRA regulations.

Most Disposal Facilities have a non-hazardous waste manifest or shipping document to track waste custody and quantities (wet tons), and to document that the waste was received and disposed of at the facility. The quantity and type of waste will be logged and tracked during the Southern Impoundment RA utilizing whatever documentation mechanism is required by the Disposal Facility(ies).

7.3 Waste Reporting

The plan developed by the RC will be required to track information about Impacted Material and wastes generated and shipped off-site as part of the Southern Impoundment RA. In addition, the plan developed by the RC will address any required regulatory filings, including those under 30 TAC §335.9(a)(2). The waste tracking for each load transported off-site may include:

- Transporter Name.
- Date of Shipment.
- Load No. - Internal Sequential Load number.
- Truck No. - Number that uniquely identifies the truck (such as the license number).
- Manifest/Shipping Document Tracking Number - preprinted number on waste documentation.
- Waste Type - Either Waste Profile Number or other unique waste identifier.
- Disposal Facility.
- Quantity - Typically weight, but some waste may be tracked as volume.
- Date Received at Disposal Facility.

8. References

- EPA, 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Updates I to V. SW-846. NTIS publication No. PB97-156111 or GPO publication No. 955-001-00000-1. Office of Solid Waste. September 1986 (with all subsequent revisions).
- EPA, 2002. RCRA Waste Sampling Draft Technical Guidance - Planning, Implementation, and Assessment. EPA530-D-02-002. Office of Solid Waste. August 2002.
- EPA, 2021. Unilateral Administrative Order for the Remedial Action of the Southern Impoundment. U.S. EPA Region 6, CERCLA Docket No. 06-05-21. In the matter of: San Jacinto River Waste Pits Superfund Site, Harris County, Texas, Respondent. August 2021.
- GHD, 2021a. *Final 100% Remedial Design-Southern Impoundment (Amended April 2021)*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. April 19, 2021.
- GHD, 2021b. *Remedial Action Work Plan - Southern Impoundment Revision 2*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. November 26, 2021.
- GHD, 2022. *100% Remedial Design Addendum*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. June 2, 2022.

Paper Size ANSI B

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet

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GHD

SAN JACINTO RIVER WASTE PITS SITE
HARRIS COUNTY, TEXAS
100% REMEDIAL DESIGN
SOUTHERN IMPOUNDMENT
TRANSPORTATION AND OFFSITE DISPOSAL PLAN

TRANSPORTATION ROUTE TO INTERSTATE-10

Project No. **11215131**
Revision No. **-**
Date **May 31, 2022**

FIGURE 1

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GHD

Attachment 2

FSP

Attachment 2 - Field Sampling Plan Southern Impoundment

Provided Following Submission of the Final 100% Remedial Design Addendum San Jacinto River Waste Pits Site Harris County, Texas

International Paper Company

June 17, 2022

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Contents

Table index

Appendices

1. Introduction

This Field Sampling Plan (FSP) was prepared by GHD Services Inc. (GHD), on behalf of International Paper Company (IPC) for the Southern Impoundment of the San Jacinto River Waste Pits Superfund Site in Harris County, Texas (Site). This FSP is an updated version of an FSP included with the Remedial Action Work Plan (RAWP) submitted to the EPA on November 26, 2021, and is being submitted on behalf of IPC to meet requirements contained in the August 5, 2021, Unilateral Administrative Order (UAO; United States Environmental Protection Agency [EPA], 2021).

The Revised RAWP submitted to the EPA on November 26, 2021 (GHD, 2021b) requires that additional specific supporting deliverables be updated based on the Pre-Construction Field Sampling Event (PC-FSE) results within 60 days after receipt of all validated data from the PC-FSE.

This FSP describes procedures for sampling of treated water from the wastewater treatment system and the imported backfill that will be used to fill excavations during implementation of the Southern Impoundment remedial action (RA). It outlines the procedures for collection of samples consistent with the sample design. This FSP was prepared in accordance with *Sampling and Analysis Plan Guidance and Template, Version 4*, General Projects R9QA/009.1 May 2014, EPA. Prior to initiation of Southern Impoundment RA activities, each remedial contractor (RC) selected with respect to those aspects of the Southern Impoundment RA addressed in this FSP will, as applicable, either update this FSP or develop its own FSP to address the components outlined in this document[1]. References below in this FSP to "the RC" are intended to refer to the selected RC with responsibility for that aspect of the Southern Impoundment RA. References in this FSP to the "work site" are to the Southern Impoundment.

1.1 Relationship to Supporting Plans

The FSP should be considered in combination with the other supporting plans that are part of this submittal and plans identified in the approved Final 100% Remedial Design (Amended April 2021) (GHD, 2021a) that have been updated or approved for use as part of the Southern Impoundment RA. The Construction Quality Assurance/Quality Control Plan (CQA/QCP) describes the procedures to verify that the excavation objectives are achieved during implementation. The Site-Wide Monitoring Plan (SWMP) describes the procedures for monitoring to prevent the potential spread of dust generated during construction and monitoring of the best management practices (BMPs) with respect to stormwater. Field and analytical quality procedures are described in the Quality Assurance Project Plan (QAPP). The Transportation and Off-Site Disposal Plan (TODP) describes the procedures for on-site management and loading of excavated material to be disposed of off-site during the Southern Impoundment RA, the transportation routes for off-site shipments from the Southern Impoundment, and measures to be implemented, if needed to protect communities that may be affected by the shipments.

2. Off-Site Backfill Characterization Sampling

It is anticipated that during the Southern Impoundment RA approximately 63,200 cubic yards of imported fill from an off-site source will be used in backfilling excavations. As described in the 100% RD Addendum, imported fill will be combined with excavated overburden soils to backfill excavations. Prior to importing backfill to the work site, the material to be used as imported fill will be sampled to confirm that it does not contain constituents of potential concern (COPCs) above the EPA Regional Screening Levels (RSL) for residential soil (EPA RSL Table, November 2021) and the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) Tier 1 Residential Soil protective concentration levels (PCLs; for total petroleum hydrocarbons [TPH]).

[1] With regard to this requirement, please see the cover letter submitting the Revised RAWP dated November 26, 2021.

2.1 Sampling Rationale

A soil sample from each imported fill source will be collected and analyzed to confirm that the imported fill does not contain COPCs above the specified levels. Only one sample per imported fill source is required, as long as the general location of the source of material does not change or there has not been any identified change in the composition of the imported fill. Imported fill will be periodically monitored by the RC through visual inspections to confirm that no changes in composition have occurred. If the material appears to have altered or changed in physical composition via visual inspection, additional characterization samples may be required.

2.2 Sample Collection Objective

The objective of collecting source imported fill soil samples will be to ensure that the sample is representative of the material from that source as a whole. Soil samples should be composited from different locations and elevations of imported fill material from the source. Soil samples should be collected directly from the source and analyzed at the approved analytical laboratory (Approved Laboratory) prior to delivery to the Southern Impoundment.

2.3 Sample Analyses

Each off-site imported fill soil sample is to be tested for the analytical parameters listed in Table 2.1, pursuant to EPA Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846), and Target Compound List (TCL)/Target Analyte List (TAL), and the other analytical methods listed in Table 2.1. Analytical test methods and Quality Assurance and Quality Control procedures (QA/QC) are outlined in the QAPP.

Table 2.1 Analytical Testing Procedures for Source Sampling

Analytical Parameters	Analytical Methods([1])
TAL([3]) Metals	SW-846 6020A/7471A
Hexavalent Chromium	SW-846 7196A
Cyanide	SW-846 9010/9012
TCL([2]) Volatiles	SW-846 8260B
TCL Semi-Volatiles	SW-846 8270D
TCL Pesticides	SW-846 8081B
Polychlorinated Biphenyls	SW-846 8082A
Herbicides	SW-846 8151A
Dioxins and Furans	SW-846 1613B
Total Petroleum Hydrocarbons	TX 1005/1006([4])

Notes:
([1]) EPA SW 846.
([2]) TCL: Target Compound List.
([3]) TAL: Target Analyte List.
([4]) TCEQ Methods 1005 and 1006.

2.4 Sample Equipment and Procedures

All source sample collection activities will be done using clean hand tools, such as a trowel or sharp shooter shovel, as access allows. It is intended that the samples would be collected in accordance with the procedures set forth below and those governing the collection and shipment of samples contained in the QAPP. Samples should be labeled, packed, and shipped as outlined below.

2.4.1 List of Equipment Needed

Source sampling equipment may include:

– Shovel
– Trowel
– Nitrile Gloves
– Buckets
– Mixing Bowl

2.4.2 Decontamination of Sampling Equipment

Source sample collection equipment that is not disposable should be decontaminated before and after sample collection at each sample location. Equipment cleaning procedures may include the following:

– Initial rinse with laboratory-grade deionized water to remove soil adhered to the equipment.
– Apply a non-phosphate laboratory-grade detergent to the equipment and scrub using an abrasion brush to thoroughly clean the sampling equipment.
– Triple rinse the equipment with laboratory-grade deionized water.
– Air-dry the rinsed equipment and wrap in clean, protective plastic, until used.

2.4.3 Sample Labeling

Labels should be secured to the sample containers and be written in indelible inks. Sample containers should be packaged and shipped on ice within an insulated ice chest to the Approved Laboratory for analysis following proper chain-of-custody protocol.

Labels may contain the following information:

– Sample identification (this includes a sample number and may include a sample container number).
– Initials of sample collector(s).
– Date and time of sample collection.
– Location or source of sample collection.
– Analysis to be performed.
– Preservative utilized.

2.4.4 Sample Packing and Shipping

When possible, sample container preparation and packing for shipment should be completed in a well-organized and clean area, free of any potential for cross-contamination of the samples. Sample containers may be prepared for shipment as follows:

1. Containers will be wiped clean of all debris/water using paper towels (paper towels must be disposed of with other potentially impacted materials).
2. Ensure that the sample labelling protocol outlined above has been completed.

The following standard guidelines may be followed when packing samples for shipment:

1. The entire contents of the cooler will be sealed in a large plastic bag.
2. The trip blank and the temperature blank will be included with shipments of samples for volatiles analysis.
3. If the cooler is being shipped by a common carrier, such as Federal Express, the chain-of custody will be placed in a sealed plastic bag inside the cooler.

4. Custody seals (two, minimum) are to be placed on each cooler and covered with clear tape.
5. Cooler lids and drain holes are to be sealed with packaging tape.
6. All prior stickers/markings or any prior shipping labels are to be removed from coolers prior to shipment or sample custody release.
7. Samples should be shipped or delivered on the same day as sampling. If samples cannot be shipped or delivered on the same day, the cooler should be drained periodically, and ice replaced. Samples should arrive at the Approved Laboratory within hold times provided by the Approved Laboratory.
8. The Approved Laboratory should be notified as to when the samples should arrive.

3. Water Sampling

During the Southern Impoundment RA, water that accumulates in an open excavation (through seepage or precipitation) will be treated through an on-site water treatment system (WTS). Treated contact water will be stored in three (3) Effluent Tanks for batch discharge based on the monitoring results and only after compliance monitoring is confirmed via analytical results, the effluent will be discharged to the San Jacinto River. The water treatment process, the results of treatability testing, and the calculated discharge criteria are detailed in the 100% RD Addendum.

3.1 Sample Collection Objective

The WTS has been designed to remove suspended solids and COPCs associated with those solids, including dioxins/furans and metals. Sampling is required for purposes of compliance with discharge criteria for total suspended solids (TSS), pH, dioxins/furans, and metals.

3.2 Sample Type, Location, and Frequency of Compliance Sampling

The compliance sampling location with respect to the WTS is identified on Drawing P-04 (included as Appendix A). The location is downstream of the last treatment unit but before the effluent tanks as identified on Drawing P-04. The below Table 3.1 presents a summary of the analysis type and minimum frequency of sampling. Effluent samples will be collected and analyzed prior to discharge and samples will only be collected and analyzed on a per batch basis.

Table 2.1 Sample Analysis and Frequency

Parameter	Minimum Frequency of Measurement	Standard Analytical TAT (business days) (1)	Sample Type
Flow	Per discharge batch (2)	---	Instantaneous
pH	Per discharge batch	---	Grab
TSS	Per discharge batch	3-5 days	Composite
Metals	Per discharge batch	3-5 days	Composite
Dioxin/Furans	Per discharge batch	3-5 days	Composite

(1) Flow rate and pH data will be collected on-site using real-time in-line monitors.

(2) The design drawings detail one influent and three effluent 688,000-gallon tanks. However, the RC could consider increasing the tank sizing as long as properly sized secondary containment and controls are in place.

If analyses at the specified compliance monitoring point indicate that effluent has not met discharge criteria for a regulated parameter, effluent will be held in the Effluent Tanks and returned to the Influent Tank to be re-treated. Additionally, performance checks may be conducted on the treatment system, including but not limited to, appropriate

modifications with respect to chemical dose, checking to determine whether GAC and/or filter media and bag filters should be replaced, etc.

3.3 Sample Equipment and Procedures

3.3.1 List of Equipment Needed

Water sampling equipment may include:

– Sample containers.
– Bucket and stirrer (if collecting multiple samples at same location).
– Gloves.
– Waterproof ink pen.
– Notebook.
– pH meter and calibration standards.

3.3.2 Equipment Calibration

The pH meter should be calibrated using a portable meter following instrument manufacturer instructions. A two-point calibration should be conducted at a minimum. Records of pH meter calibration should be maintained at the work site during the Southern Impoundment RA, as specified in the QAPP.

3.3.3 Sampling Procedure

It is recommended that the following procedure be followed when collecting water samples:

– Obtain sample cooler, bottles, and container from the Approved Laboratory.
– Inspect sample containers for cleanliness, integrity, and the presence and suitability of any required preservatives.
– Flush line at sample port to clear water standing in line in order to obtain a representative sample. Containerize the flush water and return to treatment system.
– Collect fresh grab samples in a clean bucket. If possible, samples will be collected directly into sample containers. Volume should be sufficient to fill all bottles. Stir bucket, if used, to suspend solids. Divide each sample between containers, such that essentially identical samples are collected and submitted to the Approved Laboratory for each sample location during each sampling event.
– If possible, sufficient equipment will be sent to the field so that all sampling can be conducted without the need for field decontamination. Decontamination of field equipment should be conducted as specified in the QAPP. Sample collectors should change gloves after each sampling event.
– Label sample bottles clearly, using a thin tip permanent marker pen. The label should include:
    - Sampling date
    - Sampling time
    - Sample identification number
    - Job number
– Cross-check labels to ensure that labels and field sheet IDs match.
– Place samples on ice, immediately.
– Seal samples in separate bubble wrap and plastic bags with proper labeling on each sample.
– Cover samples with ice to keep cool during shipping.
– Place all sealed bags containing the samples inside a large contractor bag inside the cooler.

- Complete chain-of-custody documentation. Place a chain-of-custody form in a separate plastic bag placed on top of the samples for shipment. Keep a copy for reference. If a copy is not available, take photograph of the form as a record.
- Samples should be shipped or delivered on the same day as sampling. If samples cannot be shipped or delivered on the same day, cooler must be drained periodically, and ice replaced. Samples must arrive at the Approved Laboratory within the hold times provided by the Approved Laboratory.
- Notify the Approved Laboratory when the samples should arrive.

4. Investigation Derived Wastes

Investigation derived waste (IDW) from sampling and decontamination activities will be containerized and temporarily stored on the Southern Impoundment. Liquid waste (e.g., decontamination water) and dry waste (e.g., excavated material and/or soiled personal protective equipment) should be segregated and transferred into United States Department of Transportation approved 55-gallon drums, or other approved containers, and temporarily stored at the Southern Impoundment pending analytical results.

All disposable materials used for sample collection and processing, such as paper towels and gloves, should be placed in heavyweight garbage bags or other appropriate containers. Disposable supplies that do not contain IDW should be removed from the Southern Impoundment by sampling personnel and placed in a normal refuse container for disposal at a solid waste landfill.

All IDW will be disposed of in accordance with all applicable regulations and guidelines, as specified in the TODP.

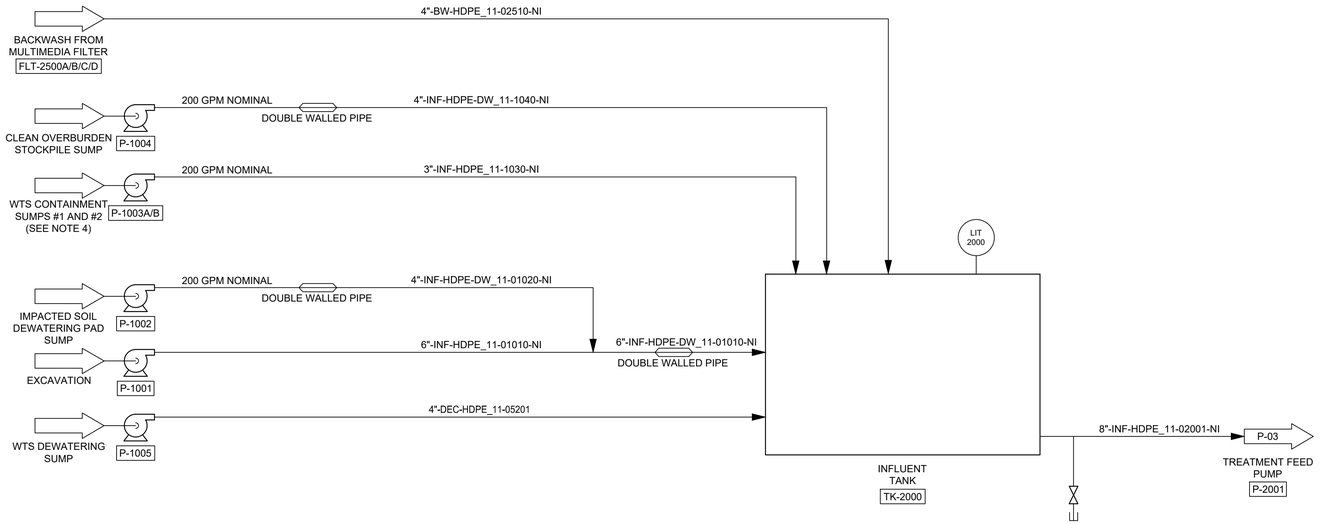
5. References

- EPA, 2021. Unilateral Administrative Order for the Remedial Action of the Southern Impoundment. U.S. EPA Region 6, CERCLA Docket No. 06-05-21. In the matter of: San Jacinto River Waste Pits Superfund Site, Harris County, Texas, Respondent. August 2021.
- GHD, 2021a. *Final 100% Remedial Design-Southern Impoundment (Amended April 2021)*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. April 19, 2021.
- GHD, 2021b. *Remedial Action Work Plan - Southern Impoundment Revision 2*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. November 26, 2021.
- GHD, 2022. *100% Remedial Design Addendum*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. June 2, 2022.

Appendices

Appendix A

Water Treatment System P&ID



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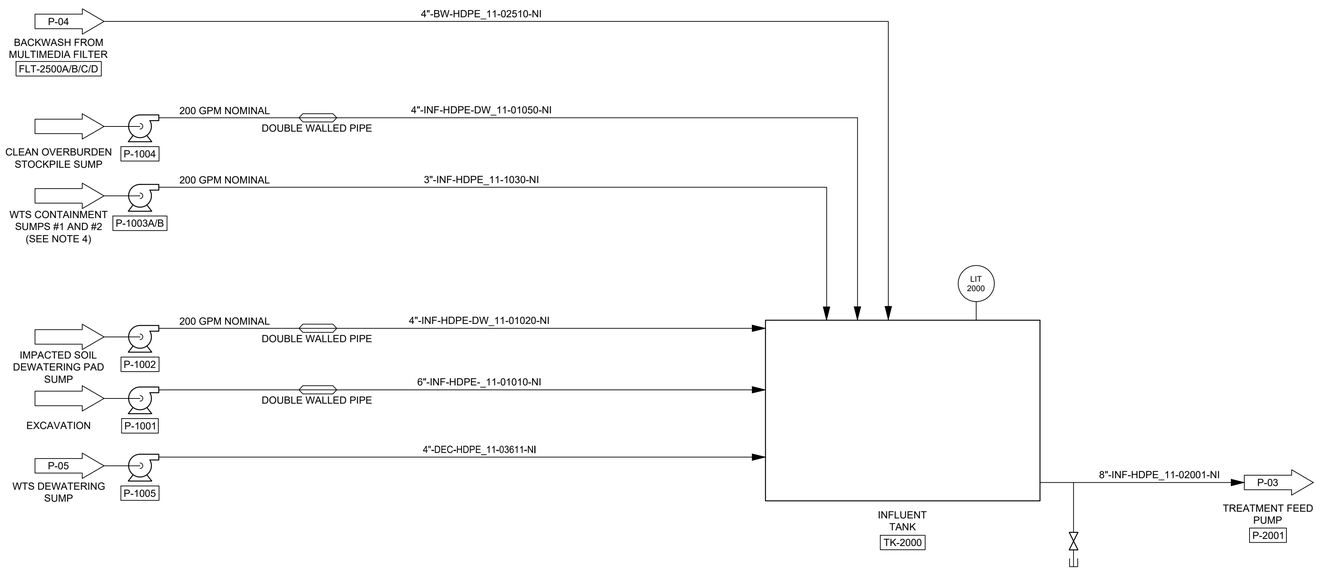

1 **WTS INFLUENT SOURCES - SEASON 1 - PART 2 & SEASON 2**
NONE

NOTES:
1. FOR CLARITY NOT ALL SYSTEM ELEMENTS (E.G. VALVES, PIPE SIZES) HAVE BEEN SHOWN. P&IDs ARE CONCEPTUAL ONLY AND ARE TO BE FINALIZED BY CONTRACTOR.
2. THE TREATMENT SYSTEM DESIGNS ARE PRELIMINARY AND SUBJECT TO CHANGE.
3. CONTRACTOR SHALL PROVIDE PROVISIONS TO DIRECT EQUIPMENT DECONTAMINATION WATER TO WATER TREATMENT SYSTEM OR TO AN ADJACENT CONTAINMENT AREA WITH PUMPING SYSTEM.
4. CONTRACTOR PROVIDE AN ADEQUATE NUMBER OF SUMPS AND PUMPS TO DEWATER CONTAINMENT AREA AFTER A LARGE RAIN EVENT TO RESUME ACTIVITIES.

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GHD SERVICES INC.
JOB NO. 11215131 FILE NO. 02
GHD TEXAS FIRM REGISTRATION NO. 276

100% REMEDIAL DESIGN ADDENDUM

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Client
SAN JACINTO RIVER WASTE PITS

Project
REMEDIAL DESIGN SOUTHERN IMPOUNDMENT HARRIS COUNTY, TEXAS

No.	Issue	Drawn	Approved	Date
9	100% RD ADDENDUM	MW	RH	06/02/2022
8	FOR CLIENT REVIEW	RS	NF	05/06/2022
7	100% EPA RE-SUBMITTAL	MW	NF	04/19/2021
6	100% EPA SUBMITTAL	MW	NF	12/18/2020

Drawn **BP** Designer **KJ**
Drafting Check **MW** Design Check **NF**
Project Coordinator **CM** Date **May 27, 2022**
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Title
WATER TREATMENT SYSTEM P&ID (1 OF 4)

Sheet No.
P-02

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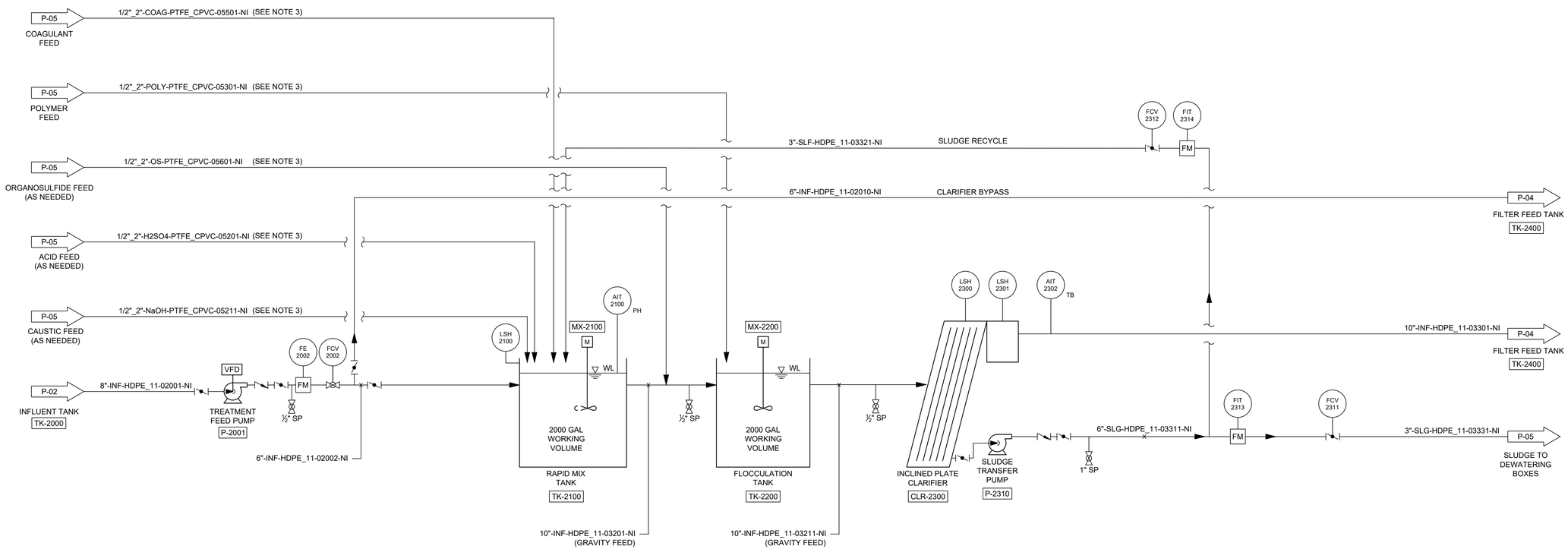

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2. THE TREATMENT SYSTEM DESIGNS ARE PRELIMINARY AND SUBJECT TO CHANGE.
3. ALL CHEMICAL TUBING SHALL BE INSIDE 2" CPVC CONTAINMENT PIPE.

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REMEDIAL DESIGN SOUTHERN IMPOUNDMENT HARRIS COUNTY, TEXAS

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Drafting Check	MW	Design Check	NF
Project Coordinator	CM	Date	May 27, 2022
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Title
WATER TREATMENT SYSTEM P&ID (2 OF 4)

Sheet No.
P-03

Sheet **40** of **46**

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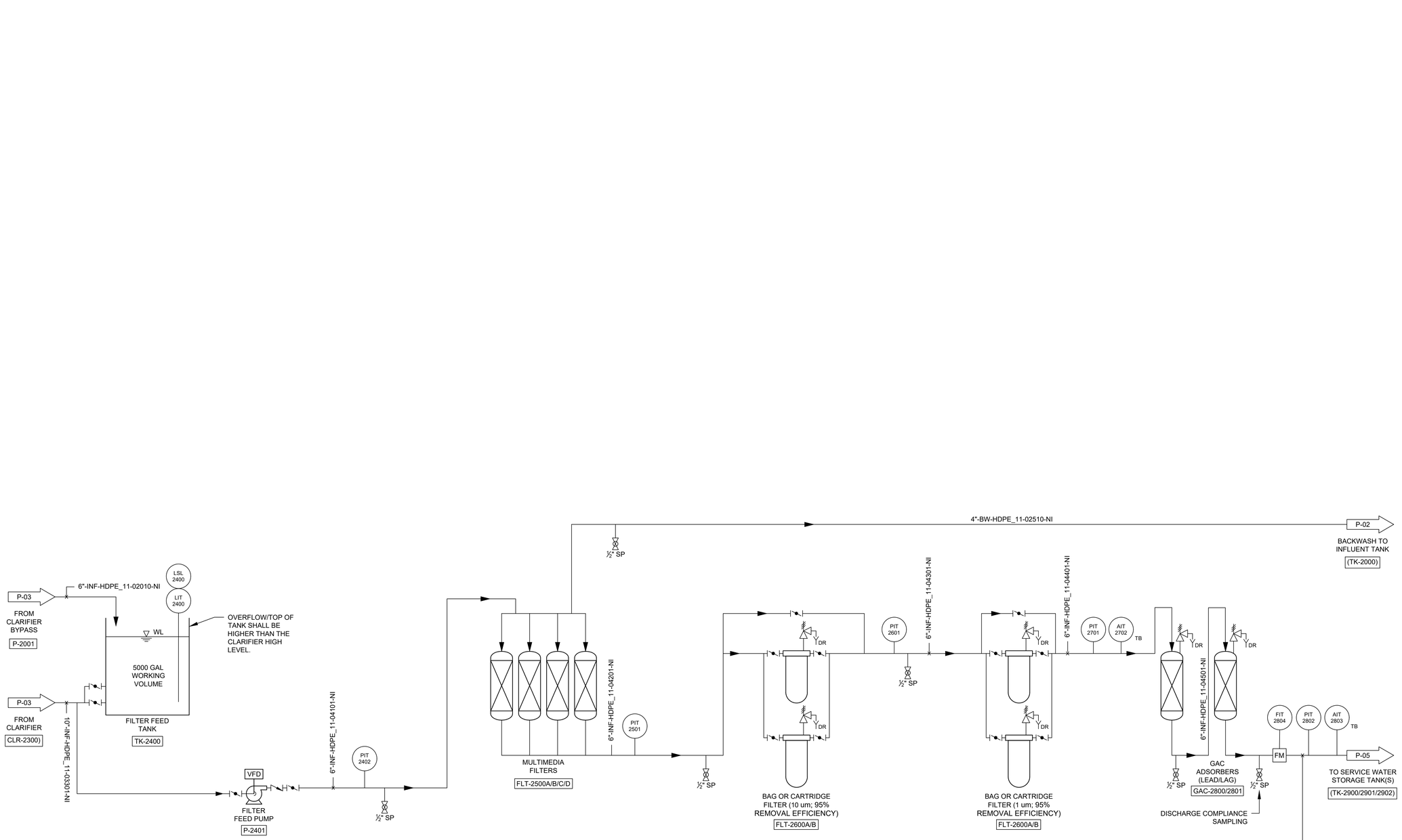

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No.	Issue	Drawn	Approved	Date
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7	100% EPA RE-SUBMITTAL	MW	NF	04/19/2021
6	100% EPA SUBMITTAL	MW	NF	12/18/2020

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Drafting Check **MW** | Design Check **NF**
Project Coordinator **CM** | Date **May 27, 2022**
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Sheet No.
P-04

Sheet **41** of **46**

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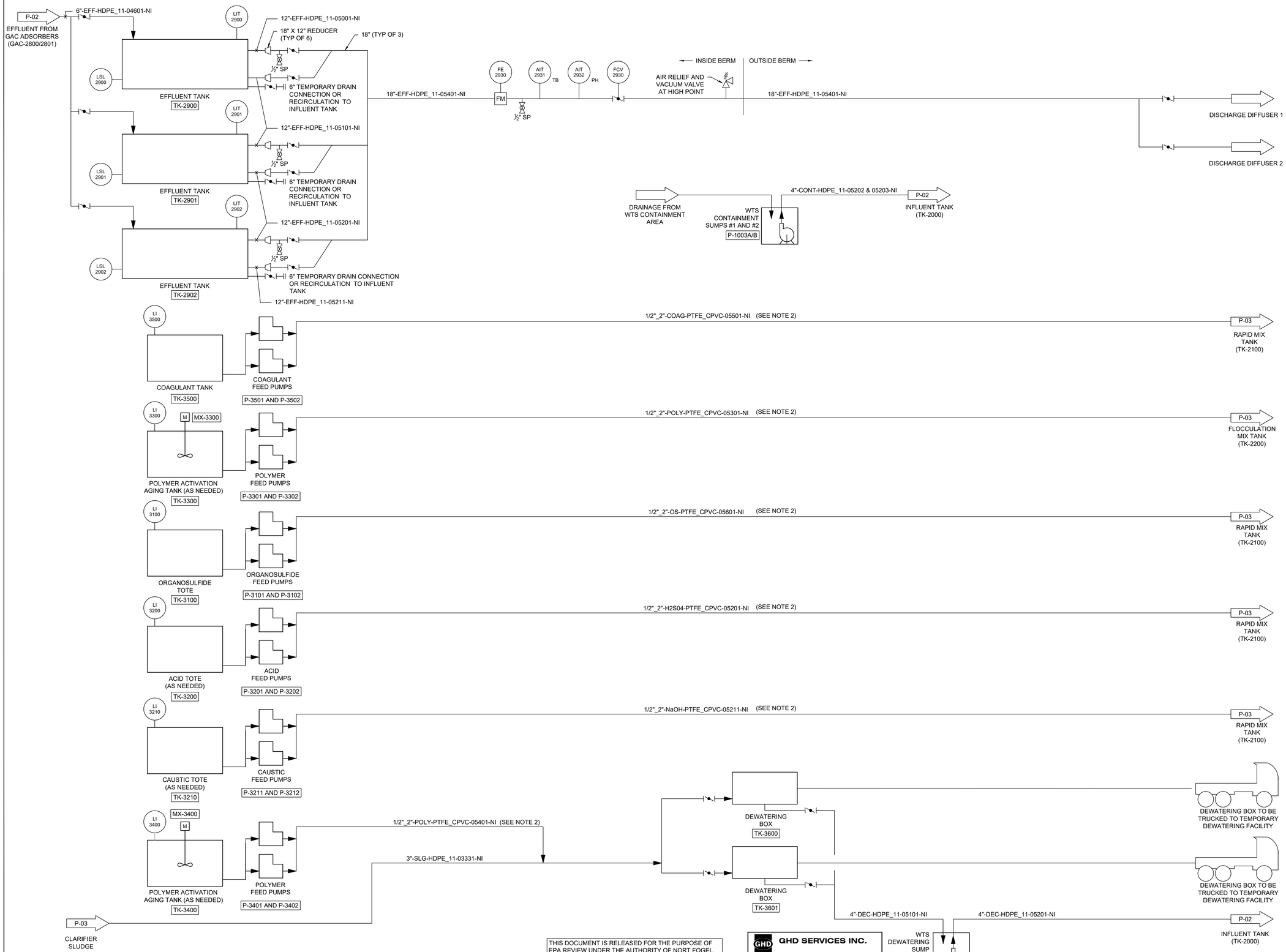

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Drafting Check MW	Design Check NF
Project Coordinator CM	Date May 27, 2022
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Project No. 11215131

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WATER TREATMENT SYSTEM P&ID (4 OF 4)

Sheet No.
P-05

Sheet 42 of 46

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→ The Power of Commitment

Attachment 3

SWMP

Attachment 3 - Site Wide Monitoring Plan Southern Impoundment

Provided Following Submission of the Final 100% Remedial Design Addendum San Jacinto River Waste Pits Site Harris County, Texas

International Paper Company

June 17, 2022

DRAFT-PRIVILEGED AND CONFIDENTIAL
ATTORNEY WORK PRODUCT

Contents

Appendices

1. Introduction

1.1 Background

This Site-Wide Monitoring Plan (SWMP) was prepared by GHD Services Inc. (GHD), on behalf of International Paper Company (IPC), for the Southern Impoundment of the San Jacinto River Waste Pits Superfund Site in Harris County, Texas (Site). This SWMP is an updated version of the SWMP included as one of the supporting deliverables with respect to the Final Southern Impoundment 100% Remedial Design (RD) (Amended April 2021) (GHD, 2021a) and is being submitted on behalf of IPC to meet requirements contained in the August 5, 2021, Unilateral Administrative Order (UAO; United States Environmental Protection Agency [EPA], 2021).

The Revised Remedial Action Work Plan (RAWP) submitted to the EPA on November 26, 2021 (GHD, 2021b) requires that additional specific supporting deliverables, including the SWMP, be updated based on the results of Pre-Construction Field Sampling Event (PC-FSE) within 60 days after receipt of all validated data from the PC-FSE.

This SWMP describes the framework for monitoring to be performed by a remedial contractor (RC) to prevent the potential spread of dust generated during construction and the monitoring of the best management practices (BMPs) in a construction Stormwater Pollution Prevention Plan (SWPPP) that the RC will prepare to manage stormwater runoff. This SWMP also lists options that the RC may elect to implement to control odors should they occur during construction as part of the Southern Impoundment Remedial Action (RA).

References below in this SWMP to "the RC" are intended to refer to the selected RC with responsibility for that aspect of the Southern Impoundment RA and to the "work site" are to the Southern Impoundment. Prior to initiation of Southern Impoundment RA activities, the RC will either update this SWMP or develop its own SWMP to address the components outlined in this document.[1]

1.2 Relationship to Supporting Plans

The SWMP should be considered in combination with the other supporting plans that are part of this submittal and plans identified in the Final 100% Remedial Design (Amended April 2021) that have been updated or approved for use as part of the Southern Impoundment RA. The Field Sampling Plan (FSP) defines the procedures related to sampling of treated effluent water and imported backfill that will be used to fill excavations during implementation of the Southern Impoundment RA. The Construction Quality Assurance/Quality Control Plan (CQA/QCP) describes the procedures to verify that the excavation objectives are achieved during implementation. Field and analytical quality procedures are described in the Quality Assurance Project Plan (QAPP). The Transportation and Off-Site Disposal Plan (TODP) describes the procedures for on-site management and loading of excavated material to be disposed of off-site during the Southern Impoundment RA, the transportation routes for off-site shipments from the Southern Impoundment, and measures to be implemented, if needed to protect communities that may be affected by the shipments.

In addition, this SWMP will be supported by a Site-wide Air Monitoring Plan which will detail how dust will be monitored and as needed, suppressed. The Air Monitoring Plan will be developed by the RC. The RC will also develop a SWPPP that will detail the measures to be taken to control stormwater run-on and run-off at the work site during the Southern Impoundment RA.

[1] With regard to this requirement, please see the cover letter submitting the Revised RAWP dated November 26, 2021.

2. Site-Wide Monitoring Approach

2.1 Monitoring During Construction

Based on the PC-FSE and as detailed in the Southern Impoundment 100% Remedial Design Addendum (GHD, 2022) (100% RD Addendum), excavation limits for RA Construction have been confirmed. During RA construction, monitoring of excavation activities will include delineation of excavation boundaries. As each excavation is completed, surveying will be performed to verify the extent of excavation (both vertical and horizontal) and to clearly mark the boundaries of the excavation for the subsequent area. These associated monitoring activities to be performed in relation to the excavation work are addressed in the CQA/QCP.

Excavation and loading activities will be performed in a controlled manner to prevent or significantly reduce the generation of dust. During the Southern Impoundment RA, the RC will prepare and implement an Air Monitoring Plan, or equivalent, which will provide air monitoring procedures for dust what steps would be taken if threshold levels are exceeded. If criteria levels are exceeded, work would then only continue after steps required by the Air Monitoring Plan have been implemented.

Stormwater control will be an essential part of the excavation program, both with regards to run-on and runoff during rain events. The RC will be required to manage stormwater run-on so that, to the extent possible, it is diverted from open excavations in order to reduce the volume of water requiring treatment and to prevent sloughing of the excavation faces. Also, during large rain events that might overwhelm open excavations, the RC will be take steps (which may include pumping, as necessary) to ensure that accumulated stormwater does not overflow from the excavation. Detailed plans for soil erosion and sediment controls can be found on design Drawings C-04 and C-05 in Appendix A. The plan for implementation of stormwater BMPs will be detailed in the RC-developed SWPPP.

2.2 Post-Construction Surveying

Upon completion of backfilling, surveying will be performed by the RC to confirm that fill placement was completed to the pre-construction elevations. Grading of the final surface should be performed to ensure that surface water drains away from the backfilled areas (i.e., no ponding).

3. Environmental Media

This section describes the regulatory framework methods for monitoring of environmental media present on-site to prevent spread of impacted material beyond the limits of the excavation areas.

3.1 Soils

Based on the results of the Remedial Investigation (RI), Pre-Design Investigation (PDI) 1, PDI 2, and the PC-FSE, and as described in the 100% RD Addendum, specific 2-foot interval vertical horizons have been identified for excavation such that, following their removal the resulting soil depth-weighted average (DWA) concentration for a given polygon area would be less than 240 nanograms per kilograms (ng/kg) 2,3,7,8-tetrachlorinated dibenzo-*p*-dioxin (TCDD) toxicity equivalents for mammals ($TEQ_{DF,M}$). This results in a total excavation volume of approximately 92,000 cubic yards (cy), of which approximately 28,800 cy will be overburden that will be temporarily stockpiled and then reused as backfill (because it does not require off-site disposal) and approximately 63,200 cy will be transported off-site for disposal.

3.2 Dust

The majority of waste material in the Southern Impoundment should have a high moisture content so dust generation during excavation activities should be minimal. A reagent, such as Portland cement, may be mixed with the waste material to solidify it so that it passes the paint filter test for landfill acceptance. Solidification and loading activities are to be performed in a controlled manner to minimize the generation of dust. The RC will prepare and implement an Air Monitoring Plan, or equivalent, which will provide air monitoring procedures for dust. The Air Monitoring Plan will define what steps would be taken if threshold levels are approach and/or exceeded. The RC-developed Air Monitoring Plan will include procedures for dust mitigation and control.

3.3 Stormwater

For the Southern Impoundment RA, the RC will be required to develop and implement a SWPPP to manage stormwater and address run-on and run-off from the excavation areas that meets the substantive requirements of the applicable or relevant and appropriate requirements for stormwater management. Preventative measures included in the SWPPP may include grading the area surrounding an excavation to drain surface water away from an open excavation, and/or constructing berms to prevent water from entering an excavation. Additional measures may include diverting surface water in areas adjacent to an excavation to existing surface drainage systems, and requiring that these surface drainage systems be kept open and operational.

Even with surface water run-on controls, water from precipitation and perched water infiltration will accumulate within the excavation area. The RC will develop procedures to manage this contact water and may do so by operating and maintaining necessary dewatering equipment to remove the water from the excavations and convey it to on-site contact water storage tanks.

4. Data Collection and Monitoring Procedures

The purpose of site-wide monitoring during the Southern Impoundment RA is to monitor the extent and potential migration of contaminated media on-site and to determine whether performance standards are being achieved. The RC will adopt procedures for collecting baseline data on affected media within the work site during construction.

4.1 Excavation Performance Verification

A primary objective of the Southern Impoundment PC-FSE was to complete confirmation sidewall, excavation bottom, and overburden sampling activities prior to mobilization for the RA Construction to better refine the extents of excavation and the volume of material available for reuse. The excavation areas of the Southern Impoundment are grouped into four distinct excavation areas that are given the following designations-Northeast (NE), North Central (NC), South Central (SC), and Southwest (SW), and the boundaries of these excavation areas have been defined. Results from this sampling event were incorporated into updated design drawings submitted as part the 100% RD Addendum.

Prior to commencing excavation, a complete topographic survey of each excavation area will be conducted to establish a pre-excavation topographic surface. The recorded topographic information (coordinates and elevations) will be used by the design engineer to create final electronic files to be used by the RC's grade-controlled excavation equipment. Prior to commencing excavation activities, the design limits of each polygon within an excavation area will be identified in the field by the RC's surveyor. It is anticipated that the required excavation activities to implement the Southern Impoundment RD will be performed from the ground surface using standard track mounted and extended reach excavators. The technical specifications that are included in the 100% RD Addendum require that the bucket of the excavator be outfitted with GPS indication equipment (i.e., Topcon 3DXi). This will allow for the collection of survey data (elevation and location) accurate to within approximately +1/10 of an inch, without the necessity for personnel

entry into the excavation to collect this data to confirm excavation boundaries. In addition, the RC will be required to engage a licensed land surveyor to perform data collection from the ground surface outside the limits of the excavation by electronic means for as constructed documentation of the excavation activities (i.e., vertical and horizontal limits). The CQA/QCP describes additional procedures to verify that the excavation limits, as defined in the 100% RD Addendum, have been achieved.

4.2 Dust Monitoring

Dust monitoring will be performed as specified in the Air Monitoring Plan to be developed by the RC. Suggested monitoring and mitigation activities are summarized below.

4.2.1 Monitoring Instruments and Procedures

Real-time air monitoring for dust may be performed using dust monitors placed at the perimeter of the work site, typically upwind and downwind of Southern Impoundment RA activities. All instruments would be calibrated and operated in accordance with the manufacturer's specifications or applicable test/method specifications.

4.2.2 Monitor Design and Frequency

Data from the dust monitors may be collected throughout Southern Impoundment RA ground disturbance activities. If concentrations of dust are above the thresholds to be defined in the Air Monitoring Plan, RC personnel will be required to implement dust suppression measures. It is anticipated that the RC would establish action levels based on real-time monitoring to prevent the exceedance of the applicable standard (Occupational Safety and Health Administration [OSHA] permissible exposure limit [PEL] of 15 milligrams per cubic meter over an 8-hour time weighted average [TWA]).

4.2.3 Suppression and Mitigation Measures

The RC will be required to implement dust suppression and mitigation measures on-site to minimize airborne dust produced from construction activities. Dust suppression measures may include, but would not be limited to:

– Reduction of speed of reagent addition during potential solidification mixing.
– Reduction of on-site traffic.
– Reduction in speed of on-site traffic.
– Watering or misting on-site roads.
– Use of appropriate truck covers.
– Applying or maintaining aggregate, or similar, for on-site roads.

4.3 Stormwater

Stormwater monitoring will be performed in accordance with the SWPPP which will be developed by the RC. The intent of the SWPPP will be to identify BMPs that will be implemented to address stormwater impacts. These BMPs may include, but would not be limited to, the following:

– Minimize the disturbed area and protect natural features and soil:
  - Limit access to the impacted area.
  - Use only approved access roads.
– Control stormwater flowing onto and through the work site.
  - Take steps so that stormwater that accumulates in the excavations or containment areas will be routed to the water treatment system.

– Stabilize disturbed soils promptly.
– Establish perimeter controls.
– Take steps to retain any potential pollutants on-site.
– Inspect and maintain all controls.
– Immediately repair or remove any leaking equipment.
– Inspect equipment prior to entering or leaving the work site to ensure that it is clean and free of soils, vegetation, and trapped debris.

4.3.1 Stormwater Construction Components

The anticipated sequences of construction activities that may be adopted and BMPs that may be installed at the work site to address stormwater are briefly described below:

– Silt fencing, straw wattles or similar devices may be installed around the perimeter of the work site before any stripping of the topsoil or disturbance of the ground.
– Under-grate, over-grate, and/or curb inlet filters may be placed at storm drain grates before construction occurs, if necessary.
– Straw bales or wattles may be installed in drainage ways present throughout the work site.
– Construction entrance(s) may be constructed to minimize the tracking of sediment off-site and onto adjacent roadways.
– Straw/hay bales and filter fabric or filter bags may be used for filtration.
– Secondary containment should be utilized around the wastewater treatment system.
– Secondary containment and/or berms and silt fencing may be utilized around the staging and/or dewatering areas for excavated and stockpiled material.

4.3.2 Stormwater Monitoring and Maintenance Procedures

Stormwater monitoring and maintenance procedures will be outlined in the SWPPP. The following procedures may be identified in the SWPPP and used to monitor stormwater erosion and sediments control to ensure compliance with the construction SWPPP for project and post-project activities, as applicable:

– Identify areas where maintenance of erosion and sediment controls are inadequate.
– Remove sediment from any installed commercial grade silt fences when sediment build-up reaches one-third the height of the fence.
– Re-anchor and/or repair commercial grade silt fences, hay/straw bales, and other BMPs, as necessary.
– Conduct follow-up inspections of disturbed areas to determine the success of stabilization measures.
– Remove sediment from construction entrances when rock is clogged. Re-grade and add additional rock, as necessary to retain efficiency.

4.3.3 Stormwater Inspection Procedures

Under the SWPPP, a qualified person who is knowledgeable of the conditions at the work site will be designated to conduct inspections during Southern Impoundment RA activities. This inspector, subject to the provisions of the SWPPP, would be given authority to address activities that may result in non-compliance with the SWPPP.

The responsibilities of the inspector may include, but would not be limited to:

– Verifying compliance with the requirements of the SWPPP and any other applicable ARAR.
– Verifying that the limits of authorized project work areas and locations of access roads are properly marked before clearing.

– Verifying the location of drainage and irrigation systems.
– Identifying stabilization needs in all areas.
– Verifying that temporary erosion controls are properly installed and maintained daily, as necessary.
– Inspecting and verifying restoration of areas of disturbed or bare soil.
– Inspecting areas used for storage of materials that are exposed to stormwater.
– Inspecting temporary structural erosion and sediment control devices/measures.
– Inspecting areas where vehicles enter or exit the work site.
– Verifying the repair of all ineffective, temporary, erosion control measures as soon as reasonably practicable but no longer than 24 hours after identification.

4.3.4 Responses to Changed Conditions

The RC will be required to amend the SWPPP as needed during the Southern Impoundment RA.

4.4 Odors

There is the potential that Southern Impoundment RA excavation activities may result in odors. Odors are most likely to occur during excavation activities when previously buried material and soils are unearthed and exposed to air. The main concern with respect to odors is the potential impact on adjacent businesses, the neighboring community, and Southern Impoundment RA workers.

If odors are present that would create a nuisance to the public or a concern for worker health and safety, the RC may implement on-site measures to counter, suppress, or mask the associated nuisance, as outlined in the RC's Air Monitoring Plan. These measures may include, but are not limited to the following:

– Deployment of odor suppressing foams.
– Perimeter misting systems.
– Perimeter masking desiccants.
– Minimization of the number and/or size of stockpiles.
– Minimization of the size and time excavations remain open.

5. Documentation

This section addresses the monitoring documentation requirements for the environmental media to be monitored. The RC will be required to maintain necessary documentation, including survey records related to the excavation areas. Dust monitoring records and notes regarding the maintenance of stormwater controls should also be maintained on-site. The frequency and types of documentation required for dust and stormwater monitoring should be outlined by the RC in the Air Monitoring Plan and the SWPPP, respectively.

6. References

– EPA, 2021. Unilateral Administrative Order for the Remedial Action of the Southern Impoundment. U.S. EPA Region 6, CERCLA Docket No. 06-05-21. In the matter of: San Jacinto River Waste Pits Superfund Site, Harris County, Texas, Respondent. August 2021.

– GHD, 2021a. *Final 100% Remedial Design-Southern Impoundment (Amended April 2021)*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. April 19, 2021.
– GHD, 2021b. *Remedial Action Work Plan - Southern Impoundment Revision 2*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. November 26, 2021.
– GHD, 2022. *100% Remedial Design Addendum*, San Jacinto River Waste Pits Superfund Site. Prepared for International Paper Company and U.S. Environmental Protection Agency, Region 6. June 2, 2022.

Appendices

Appendix A

Soil Erosion and Sediment Control Drawings

GHD
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LEGEND

- PROPERTY BOUNDARY
- PROPERTY EASEMENT
- 620 EXISTING CONTOUR INTERVAL
- X FENCELINE
- SHORELINE
- TOP OF BANK
- TOE OF SLOPE
- O/H OVERHEAD ELECTRICAL
- GUARDRAIL
- UE UNDERGROUND CCTV LINE
- UG UNDERGROUND AT&T LINE
- SJSB002 PDI/RI BORING LOCATION
- MW MONITORING WELL
- P.P. POWER POLE
- L.P. LIGHT POLE
- WELL
- AREA OF IMPACT
- ASPHALT
- CONCRETE
- GRAVEL
- SILT FENCE
- T TURBIDITY CURTAIN

SOURCE:

TOPOGRAPHIC, HYDROGRAPHIC, & MAGNETOMETER SURVEY OF SAN JACINTO RIVER WASTE PITS, HARRIS COUNTY, TEXAS, MORRISON SURVEYING INC., 190608, JULY 8, 2019 TO AUGUST 2, 2019

PARCELS 1, 2 & 3 & PRIVATE ROAD SURVEYED FOR GHD SITUATED IN THE J. T. HARRELL SURVEY, A-330 HARRIS COUNTY, TEXAS HUTCHISON & ASSOCIATES - 20-6417 - 6417.bdry - 07-24-2020

NOTES:

1. FOR THE AREAS REQUIRING SOIL REMOVAL NEAR MARKET STREET AND THE GLENDALE BOAT WORKS, INC. PROPERTY, THE LATERAL LIMITS OF THE EXCAVATION WILL EXTEND IMMEDIATELY UP TO MARKET STREET AND THE GLENDALE BOAT WORKS, INC. PROPERTY LIMITS; HOWEVER, THE EXCAVATION WILL NOT EXTEND INTO EITHER THE STREET OR ONTO THE GLENDALE BOAT WORKS, INC. PROPERTY.
2. FOR THE AREAS REQUIRING SOIL REMOVAL ON THE SOUTHWEST PORTION OF THE SOUTHERN IMPOUNDMENT, A BULKHEAD WILL BE INSTALLED ADJACENT TO THE SAN JACINTO RIVER. THE EXCAVATION WILL BE COMPLETED UP TO THE LATERAL LIMIT OF THIS BULKHEAD.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF EPA REVIEW UNDER THE AUTHORITY OF WILLIAM ALLEN BEAL, P.E. 137828 ON 06/02/2022. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING, RECORDATION, CONVEYANCE OR SALES PURPOSES.

GHD SERVICES INC.
JOB NO. 11215131 FILE NO. 02
GHD TEXAS FIRM REGISTRATION NO. 276

100% REMEDIAL DESIGN ADDENDUM

Client
SAN JACINTO RIVER WASTE PITS

Project
REMEDIAL DESIGN SOUTHERN IMPOUNDMENT HARRIS COUNTY, TEXAS

No.	Issue	Drawn	Approved	Date
9	100% RD ADDENDUM	MW	RH	06/02/2022
8	FOR CLIENT REVIEW	MW	RH	05/06/2022
7	100% EPA RE-SUBMITTAL	MW	RH	04/19/2021
6	100% EPA SUBMITTAL	MW	RH	12/18/2020

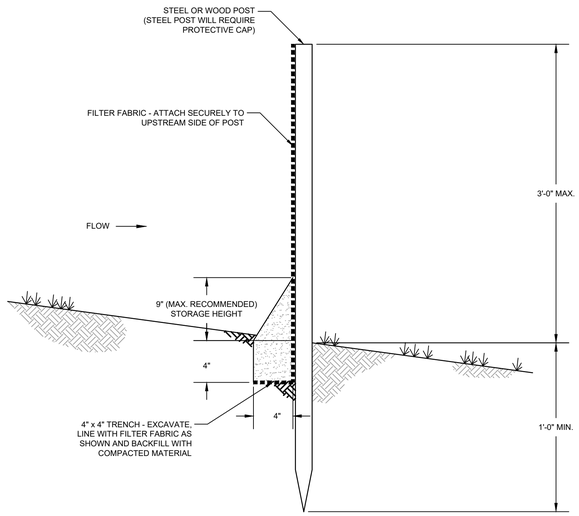
Drawn MW	Designer RH
Drafting Check BP	Design Check LL
Project Coordinator CM	Date May 27, 2022
This document shall not be used for construction unless signed and sealed for construction.	Scale 1" = 100'
Original Size Arch D	Bar is one inch on original size drawing (0 — 1")

Project No. 11215131

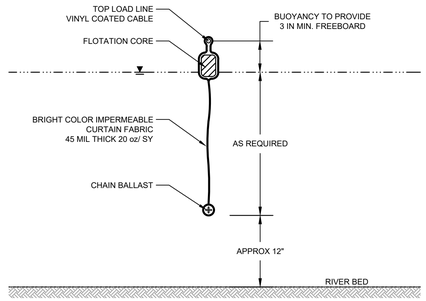
Title
SOIL EROSION AND SEDIMENT CONTROL PLAN

Sheet No.
C-04

Sheet 7 of 46



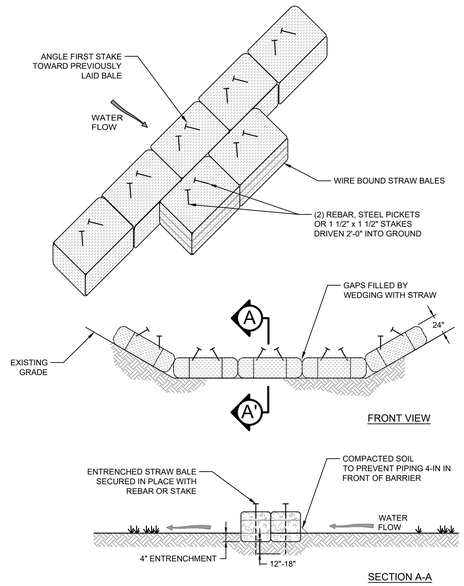
DETAIL 1 TEMPORARY SILT FENCE
N.T.S. C-04



NOTES

1. TURBIDITY CURTAIN SHALL BE TYPE II ACCORDING TO DEPARTMENT OF THE ARMY, US ARMY CORPS OF ENGINEERS WASHINGTON, DC, ENGINEERING AND DESIGN "HANDBOOK FOR THE PREPARATION OF STORM WATER POLLUTION PREVENTION PLANS FOR CONSTRUCTION ACTIVITIES", APPENDIX 'C' BMP 27 TURBIDITY CURTAIN, DOCUMENT EP1110-1-16, 1997.
2. CURTAIN SYSTEM SHALL BE EQUIPPED WITH LOAD TRANSFER TYPE PANEL CONNECTORS, HEAT SEALED FABRIC SEAMS AND TIGHT SKIRT JOINTS.
3. INCLUDE MOORING SYSTEM IF REQUIRED.

DETAIL 2 TURBIDITY CURTAIN
N.T.S. C-04



NOTE:

INSTALL SECOND ROW OF STRAW BALES IN BOTTOM OF SWALE ONLY.

DETAIL 3 STRAW BALE BARRIER
N.T.S. C-04

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GHD SERVICES INC.
JOB NO. 11215131 FILE NO. 02
GHD TEXAS FIRM REGISTRATION NO. 276

100% REMEDIAL DESIGN ADDENDUM

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SAN JACINTO RIVER WASTE PITS

Project
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Drawn MW	Designer RH
Drafting Check BP	Design Check LL
Project Coordinator CM	Date May 27, 2022
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Original Size Arch D	Bar is one inch on original size drawing 0 1"

Project No. 11215131

Title
SOIL EROSION AND SEDIMENT CONTROL DETAILS

Sheet No.
C-05

Sheet 8 of 46

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